

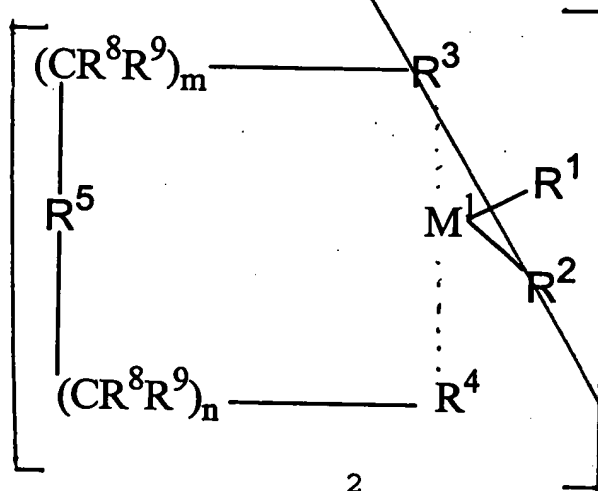
Sub E1  
cont

range maximum is between 120 and 165°C, the half-intensity width of the melting peak is broader than 10°C and

the width determined at quarter peak height is greater than 15°C, wherein such process comprises the direct polymerization of propylene or copolymerization of propylene with olefins of the formula  $R^aCH = CHR^b$ , in which  $R^a$  and  $R^b$  are identical or different and are a hydrogen atom or an alkyl radical having 1 to 14 carbon atoms, or  $R^a$  and  $R^b$ , together with the atoms connecting them, can form a ring,

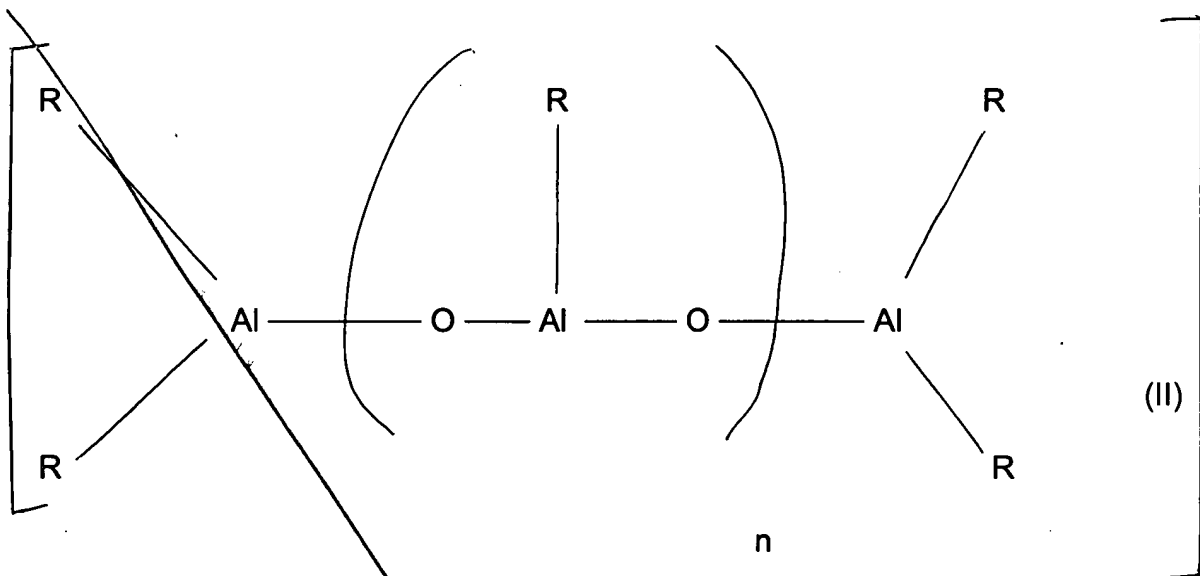
to at least two polyolefins of different melting points, wherein the melting points of the polyolefins must differ by at least 5° C, and wherein the polymerized is carried out at a temperature of from -60 to 200°C, and a pressure of from 0.5 to 100 bar, in solution, in suspension or in the gas phase, in the presence of a catalyst, wherein the catalyst comprises

(A) at least two metallocenes as transition-metal components and an aluminoxane of the formula II

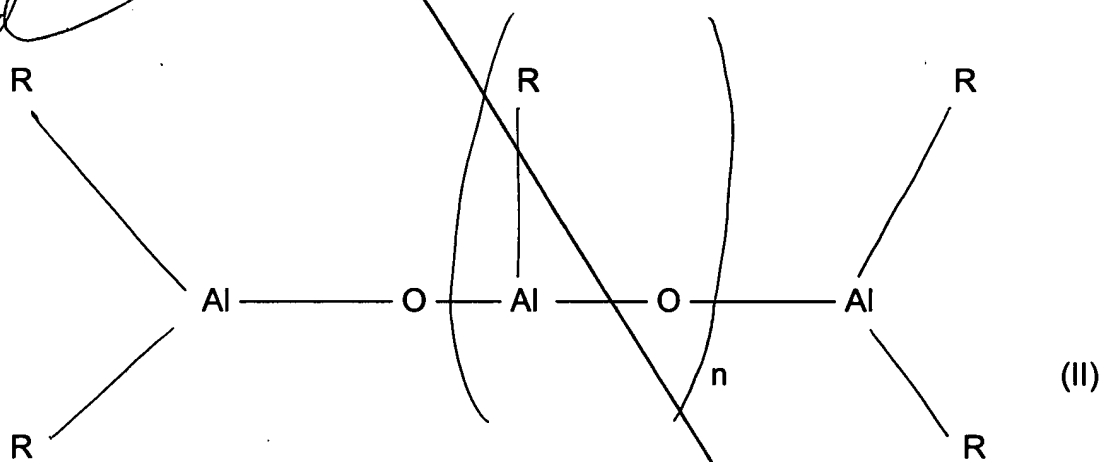


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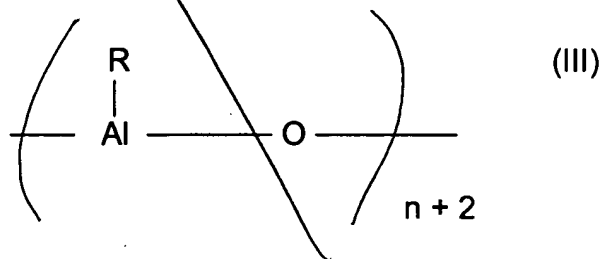
*Substituent  
cont*



*cont'd*



for the linear type and/or of the formula III



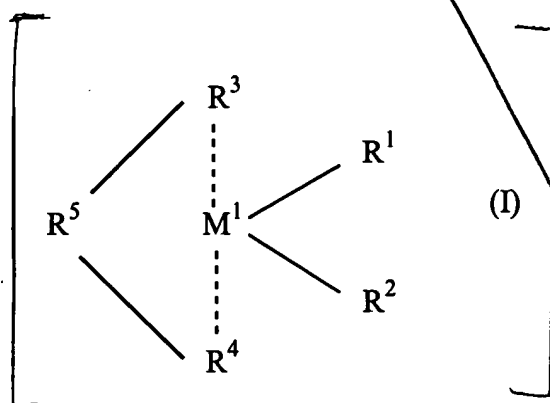
Sub E1/  
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for the cyclic type, where in the formulae II and III, the radicals R may be identical or different are a C<sub>1</sub>-C<sub>6</sub>-alkyl group, a C<sub>1</sub>-C<sub>6</sub>-fluoroalkyl group, a C<sub>6</sub>-C<sub>18</sub>-aryl group, a C<sub>6</sub>-C<sub>18</sub>-fluoroaryl group or hydrogen, and n is an integer from 0 to 50, and the aluminoxane component may additionally contain a compound of the formula AlR<sub>3</sub>, or

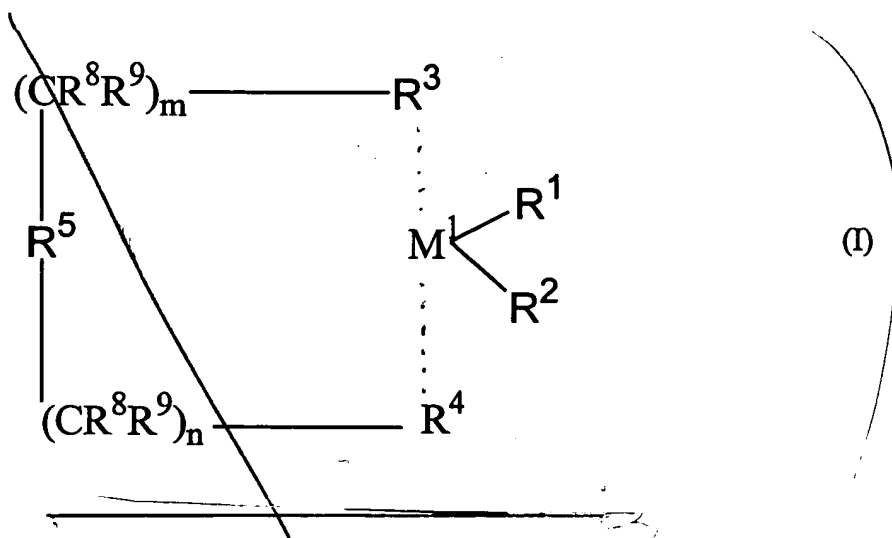
(B) at least two metallocenes as transition-metal components and a salt-like compound of the formula R<sub>x</sub>NH<sub>4-x</sub> or of the formula R<sub>3</sub>PHBR'<sub>4</sub> wherein x is 1, 2 or 3, R is identical or different and is alkyl or aryl, and R' is aryl, which may also be fluorinated or partly fluorinated,

D1  
cont

where the transition-metal component used comprises at least two metallocenes of the formula I:



Substituted  
carb

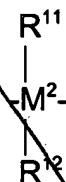


in which

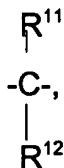
$M^1$  is Zr or Hf,

$R^1$  and  $R^2$  are identical or different and are a hydrogen atom, a  $C_1$ - $C_{10}$ -alkyl group, a  $C_1$ - $C_{10}$ -alkoxy group, a  $C_6$ - $C_{10}$ -aryl group, a  $C_6$ - $C_{10}$ -aryloxy group, a  $C_2$ - $C_{10}$ -alkenyl group, a  $C_7$ - $C_{40}$ -arylalkyl group, a  $C_7$ - $C_{40}$ -alkylaryl group, a  $C_8$ - $C_{40}$ -arylalkenyl group, or a halogen atom,

$R^3$  and  $R^4$  are identical or different and are a monocyclic or polycyclic, unsubstituted or substituted hydrocarbon radical, together with the metal atom  $M^1$ , can form a sandwich structure,

SUBJECT  
CONT~~R<sup>5</sup> is~~

or



where R<sup>11</sup> and R<sup>12</sup> are identical or different and are a hydrogen atom, a halogen atom, a C<sub>1</sub>-C<sub>10</sub>-alkyl group, a C<sub>1</sub>-C<sub>10</sub>-fluoroalkyl group, a C<sub>6</sub>-C<sub>10</sub>-aryl group, a C<sub>6</sub>-C<sub>10</sub>-fluoraryl group, a C<sub>1</sub>-C<sub>10</sub>-alkoxy group, a C<sub>2</sub>-C<sub>10</sub>-alkenyl group, a C<sub>7</sub>-C<sub>40</sub>-arylalkyl group, a C<sub>8</sub>-C<sub>40</sub>-arylalkenyl group or a C<sub>7</sub>-C<sub>40</sub>-alkylaryl group, or R<sup>11</sup> and R<sup>12</sup> together with the atoms connecting them, form a ring,

M<sup>2</sup> is silicon or germanium,

R<sup>8</sup> and R<sup>9</sup> are identical or different and are as defined for R<sup>11</sup> and

m and n are identical or different and are zero or 1.